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74) Agent: DANNEMANN, SIEMSEN, BIGLER & IPANEMA MOREIRA; Caixa Postal 2142, Rua Marquês de Olinda, 70, 22251-040 Rio de Janeiro - RJ (BR)

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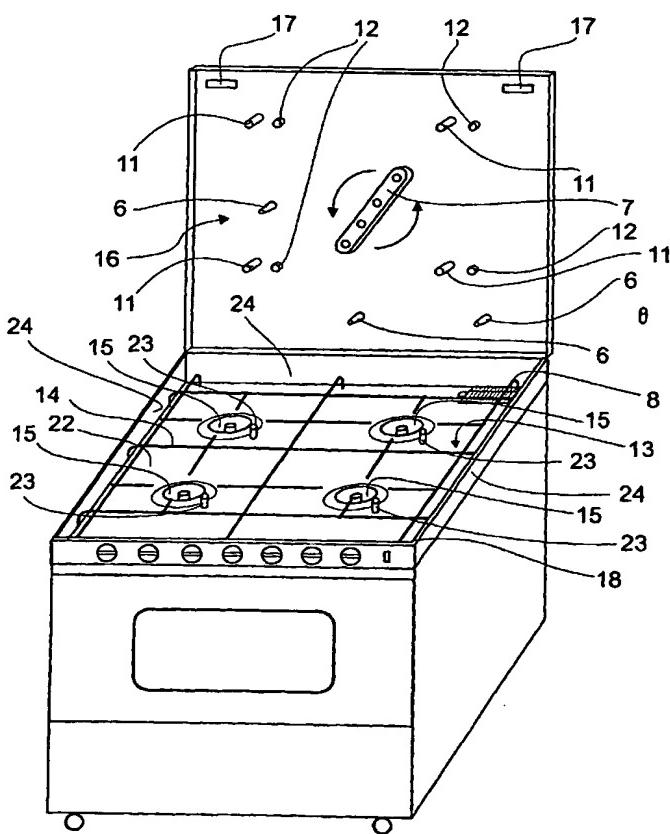
(71) **Applicant and**
(72) Inventor: DE MIRANDA GRIECO, Antônio, Augusto [BR/BR]; Rua dos Franceses, 174/161 B, Bela Vista, 01329-010 São Paulo - SP (BR).

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[Continued on next page]

(54) Title: A KITCHEN-RANGE, AN OVEN AND A SELF-CLEANING ASSEMBLY



(57) Abstract: The present invention relates to a kitchen-range (1) and/or an oven (100) with a self-cleaning system, having a cleaning-element spraying assembly (6, 7, 106, 107), preferably water with detergent, arranged at the cooking top (13) and/or cooking chamber (113) for spraying it in a pressurized way and removing the existing dirt. A circuit is coupled to the cooking top (13) and/or cooking chamber (113), formed by conduits (5, 105, 4, 104) and a pump (19), so that the sprayed cleaning-elements can circulate and remove dirt from the surfaces to be cleaned.



GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

AMENDED CLAIMS

[Received by the International Bureau on 21 September 2004 (21.09.2004) ;
original claims 1 – 20, replaced by amended claims 1 – 13]

1. A kitchen-range (1) of the type that has a cooking top (13) comprising at least one surface (22), wherein at least one heating device (15) and a support means (14), especially a grate, are arranged, and a cover (16) that can 5 cover it at least partly; the kitchen-range (1) being characterized by further comprising:
 - a first cleaning-element spraying assembly (6, 7), arranged in the cooking top (13), said at least one surface (22) of the latter being inclined with respect to the horizontal plane, so the sprayed elements can flow into a drain 10 opening (8) connected to a re-feeding circuit (4, 5, 19) for feeding cleaning elements back to said first spraying assembly (6, 7);
 - a cleaning-element delivering valve (20a) connecting an external source to said circuit, and a cleaning-element draining valve (20b) connecting the circuit to an external drain means; and
 - 15 - control means (51) to open and close the valves, enabling the cleaning elements to get into and out of the cleaning circuit, and to turn on and off said valves (20a, 20b), initiating and finishing the circulation of the cleaning elements in the circuit.
2. A kitchen-range (1) according to claim 1, characterized in that said re-feeding circuit comprises at least one first conduit (5) connecting the drain opening (8) to propelling means, and at least one second conduit (4) connecting the propelling means to the first spraying assembly (6,7).
3. A kitchen-range (1) according to claim 1 or 2, characterized by including an oven (100) of the type that comprises a cooking chamber (113) with 25 heating devices (115), support means (114), especially grates, arranged in the chamber (113), and a cover (116) to cover it, the oven (100) comprising:
 - a second cleaning-element spraying assembly (107) arranged in the cooking chamber (113), the base surface (122) of the latter being inclined, so that the sprayed elements can flow to a portion where the second drain opening (108) is 30 arranged;
 - at least one third conduit (105) connecting the second drain opening (108) to the propelling means, and at least one fourth conduit (104) connecting the

propelling means to the second spraying assembly (107), so that the second opening (108), the third conduit (105), the propelling means, the fourth conduit (104), the second spraying conduit (107) and the base surface (122) will form a cleaning-element circuit.

5 4. A kitchen-range according to any one of claims 1 to 3, characterized in that the cleaning elements are cleaning liquids.

 5. A kitchen-range according to any one of claims 1 to 4, characterized in that the propelling means are a pump (19).

10 6. A kitchen-range according to any one of claims 1 to 5, characterized in that the cleaning-element delivering valve (9) is connected to the entrance of the pump (19) by means of a reservoir (2).

 7. A kitchen-range according to claim 6, characterized in that the circuit comprises cleaning-element heating means.

15 8. A kitchen-range according to any one of claims 1 to 7, characterized in that the spraying means consist of at least one spraying arm (7, 107) and a sprayer (6).

 9. A kitchen-range according to any one of claims 1 to 8, characterized in that the first (8) and the second (108) openings include filters (21, 121).

20 10. A kitchen-range according to any one of claims 1 to 9, characterized in that the control means (51) comprise at least one from an electronic circuit and a timer.

 11. A kitchen-range according to any one of claims 1 to 10, characterized in that the valves (9, 10) are pumps.

25 12. A kitchen-range according to any one of claims 1 to 11, characterized in that said first cleaning-element spraying assembly (6, 7) is arranged on said at least one surface (22) of the cooking top (13) and/or at the cover (16) of the kitchen-range.

 13. A self-cleaning assembly attachable to a kitchen-range, characterized by comprising:

30 - at least one first conduit (205) capable of connecting a drain opening in said kitchen-range to propelling means, and at least one second conduit (204) capable of connecting the propelling means (219) to a spraying assembly on the

kitchen-range, so that the opening, the first conduit, the propelling means, the second conduit, the spraying assembly will form a cleaning circuit;

- a cleaning-element delivering valve (209) connecting an external source to said circuit, and a cleaning-liquid draining valve (210) connecting the

5 circuit to an external drain means.

STATEMENT UNDER ARTICLE 19(1)

Having studied the result of the international search report and the written opinion, applicant has amended claims 1 and 20 respectively directed to a kitchen-range and a self-cleaning assembly attachable to a kitchen-range. In amended claim 1, the expression "at least one" has been included in line 2, before the term "surface". The basis for this amendment is in the specification, specially on page 2, lines 18-20. In addition, dependent claim 12 has been included in the set of claims so as to define that said first cleaning-element spraying assembly may be arranged on said at least one surface of the kitchen-range and/or at the cover of the kitchen-range. The basis for this new claim is in the specification, specially on pages 2 and 7, lines 21-24 and 6-10, respectively. Further, bearing in mind cited FR 2 208 626 A and US 3 373 754 A, the applicant has cancelled claims 12 to 19 directed to an oven and limited claim 20 (new claim 13) directed to a self-cleaning assembly so as to define that the self-cleaning assembly is attachable to a kitchen-range, more specifically to the cooking top of a kitchen-range. The applicant's self-cleaning assembly is adapted to be joined to the cooking top of a kitchen-range, thus differing from the self-cleaning assemblies described in the prior art documents, which are conceived to be used in the oven of a cooking apparatus.